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## **REMARKS**

Reconsideration and withdrawal of the rejections set forth in the Office Action dated March 26, 2003 are respectfully requested. A separate petition for a 1-month extension of time accompanies this amendment. Claims 1-17, 36-51, 66-78, and 80-83 are currently under examination.

In view of the Examiner's earlier restriction requirement, Applicants retain the right to present claims 18-35, 52-65, 79, 84 and 85-90 in divisional applications.

The Examiner has acknowledged that claims 67-78 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, second paragraph.

### **I. Amendments**

In response to the requirement for restriction requested by the Examiner in the Office Action mailed September 26, 2002 in the above-identified application, Applicants elected to begin prosecution with the claim group I (claims 1-17, 36-51, 66-78 and 80-83), without traverse. Non-elected claims 18-35, 52-65, 79 and 84 were cancelled. Please cancel claims 85-90, without prejudice.

Claims 1 and 37 have been amended to incorporate the following limitations:

- (i) that at least one of the stations includes a chamber for holding a liquid through which a microparticle accesses such liquid across a gas/liquid interface,
- (ii) driving elements for moving a microparticle positioned at a selected station in and out of a station, across a gas/liquid interface, and
- (iii) that at least one of the controllers is for energizing the driving elements to move a microparticle in and out of a selected station.

These limitations may be found in the specification on at least page 25, lines 28 – page 27, line 4 and page 48, lines 22-26 of the specification. Claims 6-7, 47-50 and 69 have been amended to correct dependencies. Claims 3, 37, 43, 44, 50, 66, 67 and 75 have been amended to overcome Section 112, second paragraph rejections made by

the Examiner, as discussed below.. Claims 5, 46, 71-74 and 85-90 have been cancelled by this amendment, without prejudice.

No new matter has been added by this amendment.

## **II. Objections**

The drawings are objected to under 37 CFR 1.83(a) for failing to show reference no. 2513 in Figs. 25A-D as described in the specification; and for failing to show the second substrate comprising additional stations and second driving structures adjacent the second workplace or substrate of claims 2-3, 43-44 and 66.

Figs. 25A-D have been amended to show reference no. 2513.

Figs. 30A-B and 31A-B show multi-substrate systems with a second substrate comprising that includes additional stations and drive elements for controlling microparticle movement within and between the substrates. These figures are described in detail in the specification on page 52, line 8 —page 53, line 6.

Accordingly, Applicants submit that amended Figs. 25A-D and original Figs. 30A-B and 31A-B satisfy the requirements of 37 CFR 1.83(a).

## **III. Rejections under 35 U.S.C. § 112, second paragraph**

Claims 3, 44 and 66-78 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claims 3 and 44 were rejected for lacking antecedent basis for the term "said second workplace." Claims 66, 67 and 75 were rejected for lacking antecedent basis for the term "laboratory stations." These claims, as well as claims 37, 43, 44 and 50, have been amended to properly comply with the requirements of Section 112.

Claim 66 was rejected for the use of the term "can." The claim has been amended to remove the term, thereby obviating the rejection.

Claim 69 was rejected for lacking antecedent basis for the term "interior and exterior drive elements." The claim has been amended to depend from claim 68, which includes the first use of the term.

Claim 12 has been rejected as being incomplete for not reciting any structural elements, but merely an intended use of the microparticle. This rejection is traversed for the following reason. Claim 12 includes three additional structural elements – a first compound, a second compound and a biological moiety. As recited in the claim, at least one of the microparticles has the first compound attached to the surface, and at least one of the laboratory stations contains the second compound or biological moiety. Thus, the claim 12 includes at least three additional structural differences over claim 1.

Claims 71-74 were rejected as being incomplete for not reciting any additional structural elements for moving the particle. Claims 71-74 have been cancelled, thereby obviating the rejection.

Accordingly, Applicants submit that the presently pending claims satisfy the requirements of 35 U.S.C. §112, second paragraph.

#### **IV. Rejection under 35 U.S.C. §102(b)**

Claims 1-7, 12-17, 36-51, 66, 80, and 82-83 were rejected under 35 U.S.C. §102(b) as being anticipated by Batchelder (U.S. Patent No. 4,390,403).

Claims 1-4, 8-17, 36-45, and 80-83 were rejected under 35 U.S.C. §102(b) as being anticipated by Pethig *et al.* (U.S. Patent No. 5,795,457).

Claims 1-3, 8-17, 36-44, 80, and 82-83 were rejected under 35 U.S.C. §102(b) as being anticipated by Witt *et al.* (U.S. Patent No. 5,645,702).

These rejections are respectfully traversed in view of the foregoing claim amendments and following remarks.

#### **A. Legal Standard for Anticipation.**

For a prior art reference to be anticipating under 35 U.S.C. §102, it must teach "each and every" element of the claimed invention. *In re Bond*, 15 USPQ2d 1566, 1567

(Fed. Cir. 1990). "Anticipation requires identity of invention: the claimed invention, as described in appropriately construed claims, must be the same as that of the reference, in order to anticipate." *Glaverbel Societe Anonyme v. Northlake Marketing & Supply, Inc.*, 33 USPQ2d 1496 (Fed. Cir. 1995).

Applicants submit that none of the cited references meets the legal standard of anticipation for the reasons set forth below.

#### B. Key Claim Limitations of the Presently Claimed Invention

The present invention, as embodied in amended independent claims 1, 36, 37 and 66, and original claim 80, includes one or more of the following claim limitations:

1. An apparatus having at least one station that includes a chamber for holding a selected liquid, and a chamber opening through which a microparticle accesses the liquid across a gas/liquid interface (claims 1, 37 and 66);
2. Driving elements for moving a microparticle positioned at a selected station in and out of the station across the gas/liquid interface (claims 1, 37 and 66);
3. A controller operatively linked to the driving elements for energizing the biasing or second drive elements to move a microparticle in and out of a selected station across the gas/liquid interface (claims 1, 37, and 66); and
4. At least one levitated particle moving across a substrate between and among selected stations (claims 36, 37, 66 and 80).

#### B1. Rejection over Batchelder

Batchelder discloses an apparatus for manipulating chemicals within a reaction chamber by dielectrophoretic forces. The bubbles and slabs used to transport the chemicals are moved through a surrounding material having a uniform phase, e.g., gas or liquid phase. Batchelder does not disclose levitated particles, driving elements for the movement of microparticles across a gas/liquid interface, or a controller for energizing the driving elements for movement across a gas/liquid interface.

Thus, Batchelder does not disclose any of the above features, and therefore cannot anticipate the presently claimed invention. Nor does the reference suggest modifying the apparatus disclosed in Batchelder in such a way as to achieve the invention because Batchelder is not concerned with performing automated, microscale, laboratory, microparticle exposure to various liquids.

**B2. Rejection over Pethig *et al.***

Pethig *et al.* discloses an integrated fluid circuit having particles that are transported by electric fields. The reference does not disclose levitated particles, a chamber for holding a selected liquid and a chamber opening through which a microparticle accesses the liquid across a gas/liquid interface, drive elements for moving a microparticle positioned at a selected station in and out of the station across the gas/liquid interface, or a controller operatively linked to the drive elements for energizing the drive elements to move a microparticle in and out of a selected station across the gas/liquid interface.

Thus, Pethig *et al.* does not disclose any of the above features, and therefore cannot anticipate the presently claimed invention. Nor does the reference suggest modifying the apparatus disclosed in Pethig *et al.* in such a way as to achieve the invention because Pethig is concerned with the manipulation of liquid-suspended particles. It is not concerned with performing automated, microscale, laboratory, microparticle exposure to various liquids.

**B3. Rejection over Witt *et al.***

Witt *et al.* discloses a miniaturized column for liquid phase analysis. Electrically charged particles are moved through the column by electrophoresis. The reference does not disclose levitated particles, a chamber for holding a selected liquid and a chamber opening through which a microparticle accesses the liquid across a gas/liquid interface, drive elements for moving a microparticle positioned at a selected station in and out of the station across the gas/liquid interface, or a controller operatively linked to

the drive elements for energizing the biasing or second drive elements to move a microparticle in and out of a selected station across the gas/liquid interface.

Thus, Witt *et al.* does not disclose any of the above features, and therefore cannot anticipate the presently claimed invention. Nor does the reference suggest modifying the apparatus disclosed in Witt *et al.* in such a way as to achieve the invention because Witt is concerned with miniaturized, liquid-phase column analysis. It is not concerned with performing automated, microscale, laboratory, microparticle exposure to various liquids.

Dependent claims 2-4 and 6-17 incorporate all the subject matter of claim 1 and add additional subject matter, which makes them *a fortiori* and independently patentable over Batchelder, Pethig *et al.* and Witt *et al.* Similarly, dependent claims 38-45 and 47-51 in relation to claim 37; 67-70 and 75-78 in relation to claim 66; and 81-83 in relation to claim 80 are *a fortiori* and independently patentable over Batchelder, Pethig *et al.* and Witt *et al.*

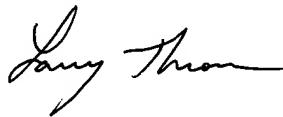
Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §102(b).

## **V. Conclusion**

In view of the above remarks, the applicants submit that the claims now pending are in condition for allowance. A Notice of Allowance is, therefore, respectfully requested.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4405.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Larry W. Thrower". The signature is fluid and cursive, with the first name "Larry" and last name "Thrower" clearly distinguishable.

Larry W. Thrower

Registration No. 47,994

Date: July 28, 2003